EVOLV FIT
Smarter Approach Towards Health

EVOLV BACKEND CHALLENGE

Meal Planner using Node.js, Express.js and MongoDB

LEVEL 1 – Schema Design

- Make a new project and setup MongoDB server. Design Mongoose Schema according to the following –
    - Food Item (all data per 100g)– name, calories, protein, carb, fat, acceptedUnits (array of enum of ml, liter, kg, g, item, etc), itemWeight (in g) (eg. – average weight of 1 banana is 118g)
    - Meal – category (enum based on time of day - Breakfast, Lunch, Evening Snack, Dinner), name, foodItems (array)
    - User – name, calorieRequirement, mealPlan (array of object having date and Meals reference)

LEVEL 2 – Creating objects in database using APIs

- Create POST APIs to add the following in the database –
    - Add any 20 Food Items using POST API from here or any other items as per your liking - https://jtmadhavan.files.wordpress.com/2009/09/the-calorie-chart-of-indian-food.pdf
    - Create any 5 Meals using the meal items by referencing Food Items into mealItems array.
    - Create a user using dummy data and make Meal Plan for 2 dates using the 5 meals created by using a POST API to append the mealPlan array in the user object.
- Create PATCH API to update Meals in the DB and Meal Plans for a User.

LEVEL 3 – Optimizing meals for protein

- Given the amount of calories for a meal, implement an algorithm to select Food Items with following constraints in the order of priority from highest to lowest –
    - Quantity of items is a whole number (eg – 1 banana and not 0.234 banana). Acceptable quantities are in the multiples of 0.25 (eg – 0.25, 0.5, 1, 1.75, etc) but the logic should prioritize whole numbers.
    - Calories are in the range of ± 100 from the given amount.
    - The amount of protein (1g protein has 4 calories) is 20-30% of the total calories.
    - The number of different items are in the range of 2-5.

JUDGING CRITERIA

- Usage of embedding and referencing for Schema Design
- Code structure
- Accuracy of the algorithm

SUBMISSION DETAILS

- Check-in your code on GitHub.
- Share the link to your repo on the submission link.

NOTE

The assignment is deliberately made a bit difficult. So please feel free to contact us regarding any questions you might have. Don't hesitate to submit at any level you might have completed.